

LISTING OF CLAIMS

Claims 1-24 (cancelled)

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Claim ¹~~25~~ (previously added): A bacterium comprising an isolated polynucleotide which encodes an acyl-CoA synthase comprising the amino acid sequence of SEQ ID NO: 2.

Claim ²~~26~~ (previously added): The bacterium of claim ¹~~25~~, wherein said bacterium is a coryneform bacterium selected from the group consisting of Corynebacterium glutamicum, Corynebacterium acetoglutamicum, Corynebacterium acetoacidophilum, Corynebacterium thermoaminogenes, Corynebacterium melassecola, Brevibacterium flavum, Brevibacterium lactofermentum and Brevibacterium divaricatum or from the species Escherichia coli.

Claim ³~~27~~ (currently amended): The bacterium of claim ¹~~25~~, wherein said acyl-CoA synthase encoded by said isolated polynucleotide is overexpressed, and wherein said overexpression is achieved by increasing the number of copies of said isolated polynucleotide by transformation of said bacterium with an expression vector which comprises said isolated polynucleotide.

Claim 28 (cancelled)

Claim ⁴~~29~~ (currently amended): The bacterium of claim ³~~28, 27~~, wherein said isolated polynucleotide coding for said acyl-CoA synthase is comprised in a plasmid vector.

Claim ⁵~~30~~ (previously added): The bacterium of claim ⁴~~29~~, wherein said plasmid vector is pJC1fad15 deposited under Corynebacterium glutamicum DSM 13249.

Claim ⁶~~31~~ (previously added): An isolated polynucleotide comprising a polynucleotide which encodes an acyl-CoA synthase comprising the amino acid sequence of SEQ ID NO: 2.

Claim ⁷~~32~~ (previously added): The polynucleotide of claim ⁶~~31~~, wherein said polynucleotide is a recombinant DNA which is capable of replication in coryneform bacteria.

Claim ⁸~~33~~ (previously added): The polynucleotide of claim ⁶~~31~~, wherein said polynucleotide is an RNA.

Claim ⁹~~34~~ (currently amended): An isolated polynucleotide, ~~wherein said isolated polynucleotide is selected from the group~~ consisting of

(i) ~~a polynucleotide comprising~~ SEQ ID NO: 1 or a fragment thereof, ~~and~~

(ii) ~~a polynucleotide comprising nucleotides 247 to 2103 of SEQ ID NO: 1 or a~~

~~degenerate variant thereof, and~~

~~wherein said isolated polynucleotide~~ which encodes an acyl-CoA synthase.

Claim ¹⁰~~35~~ (currently amended): The isolated polynucleotide of claim ⁹~~34~~, wherein said acyl-CoA synthase ~~comprises~~ consists of the amino acid sequence of SEQ ID NO: 2.

Claim ¹¹~~36~~ (currently amended): An isolated polynucleotide ~~comprising~~ consisting of at least 15 consecutive nucleotides selected from SEQ ID NO: 1 or the complete complement

thereof, wherein said isolated polynucleotide is a primer in a polymerase chain reaction for the synthesis of a polynucleotide which encodes an acyl-CoA synthase.

Claim ¹²~~37~~ (currently amended): An isolated polynucleotide ~~comprising~~ consisting of at least 15 consecutive nucleotides selected from SEQ ID NO: 1 or the complete complement thereof, wherein said isolated polynucleotide is a probe in a hybridization reaction for the isolation of a polynucleotide which encodes an acyl-CoA synthase.

Claim ¹³~~38~~ (previously added): The polynucleotide of claim ¹¹~~36~~, wherein said acyl-CoA synthase comprises the amino acid sequence of SEQ ID NO: 2.

Claim ¹⁴~~39~~ (previously added): The polynucleotide of claim ¹²~~37~~ wherein said acyl-CoA synthase comprises the amino acid sequence of SEQ ID NO: 2.

Claim ¹⁵~~40~~ (previously added): An isolated polynucleotide comprising the complete complement of SEQ ID NO: 1.

Claim ¹⁶~~41~~ (currently amended): A vector comprising the isolated polynucleotide of claim 7 ⁶~~31~~.

Claim ¹⁷~~42~~ (currently amended): The A vector according to claim ¹⁶~~41~~, wherein said vector is p JC1 fad15 deposited under DSM13249 comprising the isolated polynucleotide of claim 10.

Claim ¹⁸~~43~~ (currently amended): A vector comprising the isolated polynucleotide of claim ¹⁵~~26~~ ¹⁵~~40~~.

Claim ¹⁹~~44~~ (New): A vector comprising the isolated polynucleotide of claim ⁹~~34~~.

Claim ²⁰~~45~~ (New): The vector according to claim ¹⁹~~44~~, wherein said vector is p JC1 fad15 deposited under DSM13249.

Claim ²¹~~46~~ (new): An isolated polynucleotide, comprising nucleotides 247 to 2103 of SEQ ID NO: 1 or a degenerate variant thereof which encodes an acyl-CoA synthase.

Claim ²¹~~47~~ (new): The isolated polynucleotide of claim ²¹~~46~~, wherein said acyl-CoA synthase comprises the amino acid sequence of SEQ ID NO: 2.